are two types of packet: a buyer packet and a seller packet. These packets have the following format:

Buyer Packet:

Packet Size: 2000 bytes

Format:

Data type and element	Byte Range	Description
Integer packet_type:	bytes 0-4	An integer which describes the type of packet being sent
Integer name_size:	bytes 4-8	The length of the name being sent
char* name:	bytes 8-136	An array containing the name to be sent
Int keyword_size:	bytes 136-140	An integer containing the length of the keyword
char* keyword:	bytes 140-396	An array containing the keyword
Int descrition_size:	bytes 396-400	An integer containing the length of the description
char* description:	bytes 400-1424	An array of character containing the description itself
Int image_path_size:	bytes 1424-1428	An integer containing the length of the image path.**(not used by the buyer)**
char* image_path:	bytes 1428-1556	A character array containing the image_path itself (where the image is stored)**(not used)**
Redundancy	bytes 1556-2000	Unused bytes for future extensions.

In the case of the buyer packet, several of the fields remain redundant such as the image_path_size and the image_path fields. In the proposed system, these fields are not used by a buyer agent since it is assumed that buyers will not submit images, although buyers could do so in which case the fields may be enabled. However, redundant fields are left in the data packet to allow the system to use identical packet sizes for all communications. The packet size is 2000 bytes or 2K. The server 10 knows to treat a buyer packet as a buyer packet by detecting and responding to the packet_type descriptor that is the first field of the data packet.

Seller Packet:

Packet Size: 2000 bytes

Format:

Data type and element	Byte Range	Description
Integer packet_type:	bytes 0-4	An integer which describes the type of packet being sent
Integer name_size:	bytes 4-8	The length of the name being sent
char* name:	bytes 8-136	An array containing the name to be sent
Int keyword_size:	bytes 136-140	An integer containing the length of the keyword
char* keyword:	bytes 140-396	An array containing the keyword
Int descrition_size:	bytes 396-400	An integer containing the length of the description
char* description:	bytes 400-1424	An array of character containing the description itself
Int image_path_size:	bytes 1424-1428	An integer containing the length of the image path.

char* image_path:	bytes 1428-1556	A character array containing the image_path itself (where the image is stored)
Redundancy	bytes 1556-2000	Unused bytes for future extensions.

The next step of the process involves matching buyers and sellers, and informing users of a match.

The server 10 receives buyer packets and seller packets representing offers to buy and offers to sell and stores them in its associated database. Periodically the server 10 performs a matching procedure among stored offers using a context-vector matching algorithm. If suitable matches are found then the server 10 informs the users that made the matching offers and the information is sent to the matched buyers and sellers. For example, a buyer will receive information about the item for sale and if that buyer chooses to accept and participate in an auction, the seller is informed about the buyer's acceptance. Information about the item for sale is sent to the potential buyers using the same data packet (seller packet) as described above. This will also include the seller's current IP address (if available, i.e. if the seller's terminal are currently online) which will be added in the redundancy bytes at the end of the data packet, as below:

Data type and element	**Byte Range**	**Description**
Int Ipaddress_size:	bytes 1556-1560	An integer containing the length of the IP address.
char* Ipaddress:	bytes 1560-1688	A character array containing the IP address itself

When a match is made, a seller match interface appears on the buyer's terminal. A screen shot of the seller match interface 33 is shown in Figure 6.

By clicking a 'download image' button 34, the buyer can use the image path and IP address information to download any available images of the item directly from the seller (or from a network address nominated by the seller) so as to help the buyer decide whether or not to participate in an auction.